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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,744	10/24/2003	Taixu Bai	5659-21400/EBM	2398

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DEL CHRISTENSEN
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EXAMINER

KRECK, JOHN J

ART UNIT	PAPER NUMBER
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3673

DATE MAILED: 07/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/693,744	BAI ET AL.	
	Examiner	Art Unit	
	John Kreck	3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2006.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 121,123-126,128-154 and 1691-1718 is/are pending in the application.
- 4a) Of the above claim(s) 140-145,1698, 1699,1702-1718 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 121,123-126,128-139 and 146-154 is/are allowed.
- 6) ☒ Claim(s) 1691-1697,1700,1701 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>5 pages</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The amendment dated 5/9/06 has been entered.

1. Claims 1702-1718 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 10/11/05.

2. Claims 140-145, 1698, and 1699 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species (i.e. the open or uncased species was elected), there being no allowable generic or linking claim.

Election was made **without** traverse in the reply filed on 10/11/05.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1691-1697, and 1700-1701 are rejected under 35 U.S.C. 102(e) as being anticipated by each one of US 6871707 B2, US 6866097 B2, US 6820688 B2, US 20040211557 A1, US0040211554 A1, US 6805195 B2, US 6789625 B2, US 6782947 B2, US 6769485B2, US 6769483 B2, US 6763886 B2, US 6761216 B2, US 6758268 B2, US 6752210 B2, US 6749021 B2, US 20040108111 A1, US 6745837 B2,US 6745832 B2, US 6745831 B2,US 6742593 B2, US 6742589 B2,US 6742588 B2, US 6742587 B2,US 6739394 B2, US 6739393 B2,US 6736215 B2, US 6732796 B2,US

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6732795 B2 , US 6732794 B2, US 6729401 B2,US 6729397 B2, US 6729396 B2, US 6729395 B2, US 6725928 B2,US 6725921 B2 ,US 6725920 B2, US 6722431 B2, US 6722430 B2,US 6722429 B2, US 20040069486 A1, US 6719047B2, US 6715549 B2, US 6715548 B2, US 6715547 B2, US 6715546 B2,US 6712137 B2 ,US 6712136 B2 , US 6712135 B2, US 6708758 B2, US 6702016 B2, US 6698515 B2, US 6688387 B1, US 20040015023 A1, US 20030209348 A1, US 20030173080 A1, US 20030173078 A1, US 20030164239A1, US 20030164238 A1, US 20030164234 A1, US 6609570 B2, US 6607033 B2, US 20030148894 A1, US 20030146002 A1, US 20030142964 A1, US 20030141068A1, US 20030141067 A1, US 20030141066 A1, US 20030141065 A1, US 20030137181A1, US 20030136559 A1 ,US 20030136558 A1, US 20030131996 A1, US 20030131995A1, US 20030131994 A1,US 20030131993 A1 , US 6591907 B2, US 6591906 B2, US 20030130136 A1, US 6588504 B2, US 6588503 B2, US 20030116315 A1, US 6581684B2, US 20030111223 A1, US 20030102130 A1, US 20030102126 A1, US 20030102125 A1, US 20030102124 A1, US 20030100451 A1, US 20030098605A1, US 20030098149 A1, US 20030085034 A1, US 20030080604 A1, US 20030079877A1, US 20030075318 A1, US 20030070807 A1, US 20030066644 A1,US 20030066642 A1 , US 20030062164 A1,US 20030062154 A1,US 20030051872 A1 , US 20030024699A1, US 20030019626 A1, US 20030006039 A1,US 20020191969 A1, US 20020191968 A1,US 20020170708 A1, US 20020132862 A1,US 20020117303 A1 , US 20020108753 A1,US 20020104654 A1,US 20020096320 A1, US 20020084074A1, US 20020077515 A1,US 20020076212 A1, US 20020074117 A1 , US 20020066565A1, US 20020062961 A1, US 20020062959 A1,US 20020062052 A1 , US 20020062051A1,

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US 20020057905 A1, US 20020056552 A1, US 20020056551 A1, US 20020053436A1, US 20020053435 A1, US 20020053432 A1, US 20020053431 A1, US 20020053429A1, US 20020052297 A1, US 20020050357 A1, US 20020050356 A1, US 20020050353A1, US 20020050352 A1, US 20020049360 A1, US 20020049358 A1, US 20020046883A1, US 20020046839 A1, US 20020046838 A1, US 20020046837 A1, US 20020046832A1, US 20020045553 A1, US 20020043405 A1, US 20020043367 A1, US 20020043366A1, US 20020043365 A1, US 20020040781 A1, US 20020040780 A1, US 20020040779A1, US 20020040778 A1, US 20020040177 A1, US 20020040173 A1, US 20020039486A1, US 20020038712 A1, US 20020038711 A1, US 20020038710 A1, US 20020038709 A1, US 20020038708 A1, US 20020038706 A1, US 20020038705 A1, US 0020038069A1, US 20020036103 A1, US 20020036089 A1, US 20020036084 A1, US 20020036083A1, US 20020035307 A1, US 20020034380 A1, US 20020033280 A1, US 20020033257A1, US 20020033256 A1, US 20020033255 A1, US 20020033254 A1, US 20020033253A1, US 20020029885 A1, US 20020029884 A1, US 20020029882 A1, US 20020029881A1, and US 20020027001 A1.

See, for example, U.S. Patent Application Publication number 2002/0027001, which plainly shows an elongated heater in an opening in a formation configured to provide heat, and discloses in paragraph 400 the heater having a diameter of 2.8 cm and an opening at least 5.0 cm. These diameters would meet the limitation of "the opening sized so that a minimum space...is maintained". The claim is interpreted as "product-by-process", and since the product (i.e. a narrow heater in a wide borehole) is

taught by the prior art, the process limitations (e.g. the opening sized based on estimations of expansion) are not given weight.

The applied references have a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the references, they constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

3. Claims 1691, 1700 are rejected under 35 U.S.C. 102(b) as being anticipated by Bouck (U.S. Patent number 4,412,585). See figures 1 and 2. The claim is interpreted as "product-by-process", and since the product (i.e. a narrow heater in a wide borehole) is taught by the prior art, the process limitations (e.g. the opening sized based on estimations of expansion) are not given weight.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1692-1698, rejected under 35 U.S.C. 103(a) as being unpatentable over Bouck.

Bouck lacks the various sizes and spacings as called for in claims 1692-1694, and the various richness called for in claims 1695-1696. Bouck also lacks the temperature limited heater.

With regards to claims 1692-1694: see *In Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device. It is apparent that modifying the device taught by Bouck to have the claimed dimensions would result in a different operation than contemplated by Bouck.

With regards to claims 1695-1696: One of ordinary skill in the art would have found it obvious to have placed the Bouck system in a formation having a richness as claimed, since one of ordinary skill in the art would have understood the inherent desirability of a rich deposit.

With regards to claim 1697: One of ordinary skill in the art would have found it desirable to have used a temperature limited heater; in order to avoid the possibility of the heater melting.

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5. Claims 1691 and 1701 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siddoway, et al. (U.S. Patent number 4,793,656).

Siddoway teaches the elongated heater in the opening. Siddoway fails to explicitly disclose the opening sized so that a minimum space is maintained, although Siddoway plainly shows a space in figure 2, and shows in figure 3, the heater removed.

One of ordinary skill in the art would have found it obvious to have practiced the Siddoway invention so that the opening would be sized so that a minimum space is maintained, in order to remove the heater.

Siddoway also teaches coal as called for in claim 1701.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1. Apparatus claims 1691-1698, 1700, and 1701 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims of U.S. Patent No. US 6929067 B2, US 6789625 B2, and US 6769483 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims in the instant application are generally broader, except they recite limitations concerning the type of formation and dimensions of the well and heater. The relative dimensions are not given patentable weight, since one of ordinary skill in the art would understand that dimensions are generally matters of engineering design; and the particular formation characteristics would have been obvious, since rich formations would be desirable for production.

2. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


3. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

4. Claims 121, 123-126, 128-139, and 146-154 are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Kreck whose telephone number is 571-272-7042. The examiner can normally be reached on Mon-Thurs 530am-2pm; Fri: telework.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia Engle can be reached on 571-272-6660. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


John Kreck
Primary Examiner
Art Unit 3673

12 July 2006

~~21 December 2005~~ 